21 FEB 1985

MEMORANDUM FOR: Harry E. Fitzwater
Deputy Director for Administration

FROM: [redacted] STAT

SUBJECT: Computer Panel Report

1. The Computer Study Panel looked, as you know, only at the computer space occupied by the former Office of Data Processing. In examining the present and planned space occupation options, the Panel accepted the basic assumptions presented by the then Office of Data Processing. The substantive findings of the Panel were that retention of any computer space in the present Headquarters building would be of no value. An additional finding was that under present planning, growth requirements for computer-grade space could be satisfied until 1995, but only by displacing personnel. The most critical, and driving, finding is that any measure can serve only to slow the growth rate. That is, like Boyles Law, computers will expand to fill any available space because as the population becomes more skilled at using such computers, the population demands for even greater capabilities increase. Of course, a discussion of possibilities of splitting computer capabilities provides the benefits of dual capabilities or a built-in backup.

2. The historical trends of the management of information resources have been to follow the path of least resistance -- laissez faire. Like other institutions, CIA entered the computer world as a means of speeding transactions, using batch processing with an extremely low requirement for any form of interaction. As the demands upon batch processing increased, it was easy to associate another computer with the existing facilities. Terminals were relatively few and the data processing network was skeleton-like, accordingly. Control of the utilization of the resources was not the critical factor. Basically, any problems could be overcome by throwing new hardware at it. As hardware costs fell, this type of solution became even easier of attainment. Consequently, there was little reason to impose any control over the use of the computer system. While a great deal of attention was paid to the acquisition of hardware because this process used dollar resources, little attention was paid to the number of users, the requirement for direct access storage, or the ultimate implications in terms of terminals and utilities.

3. That world has changed. Information remains the primary commodity of this Agency. Everybody wants access to it, everybody wants to exchange information, and no one wants to let go of it. We are

literally at a stage where every employee can have access to an information processing terminal. Not only has population changed, but the method of using information has changed. The great bulk of our usage is now between 8 to 5, in interactive modes. We have also made systems such as SAFE available to large numbers of users at relative facility, and utility of such systems have served only to accelerate the growth curve. The slope of the curve for DASD shown in figures 1, 2, and 3 of the reports are symptomatic of a growth curve reaching to infinity.

4. Management controls have not worked in this Agency because they have never been effectively applied. In private industry, the use of information is of pecuniary value to the organization. It can create profits or losses. All organizations in private industry have some type of management of this increasingly critical resource. Faced with an unending growth pattern, it does not seem appropriate to dismiss management controls out of hand. A combination of exploiting the technological and management controls can serve to limit the growth of information storage, particularly, to that which is consistent with Agency objectives.

5. The implications contained in the Study Panel itself are that the Agency is prepared to change its philosophy with regards to computer operations. In the past, computers have increased at the central facility. Personnel have been disbursed to accommodate the new need for computer space. The implications are that the reverse will take place; that computers, except for a kernel, will disburse and people will stay. If we do have to expand the Agency population, we again would be confronted with moving people. The implied accepted trade off for moving people is an increase in security vulnerability. Protecting two computer centers is on the face of it more complex and expensive than protecting one. Increasing the capabilities to deal with the security problem can be at hand. Likewise, the technical capability to communicate at appropriate speed between computer centers or directly from remote computers to users does exist. It would seem axiomatic that the shorter the communication path, the fewer the complexities and the less the dependency upon the communication technology.

6. The rate of change in both the communication technology and data processing technology is decreasing. The number of circuits that could be put on a chip initially changed at a rate of about ten to the sixth every two years. It is now at about ten squared and shortly will be at a factor of ten. While change will continue to take place in the technology, the rate of change as measured by the basic technical capabilities, that is chip loading, head gap distances, and information density will begin to flatten out within the present technology. While

research continues to go on, the best likelihood for technological change is represented by the replacement of silicon chips by gallium arsenide and the effective development of read and write optical disks. The former will bring about some reduction in the size of mainframes, but that is not a critical area. The latter, coupled with the increase in magnetic density should increase storage capacity by a factor of about 15. The foregoing suggests that the recommendations of the Study Panel are based upon reasonable expectations and are durable and also echoes the Study Panel in postulating that technology, whether applied near at hand or remotely, will not solve the problem of growth.

7. In considering the likelihood of implementation of general tenor, the local political situation with regards to additional buildings on the compound must be considered in face of the extreme sensitivity of the McLean Citizens Association, coupled with security disadvantages of putting a new computer center in the same location as the old, it is easy to agree with the Study Panel's recommendation of a remote location. On the other hand, the bulk of the people involved live in Nothern Virginia and Maryland. A distance could cause the loss of upward of 30% of the work force. Therefore, it would seem logical that the move be distant, but not too distant; close, but not too close. A further complication is the judgment as to how much money can be acquired for this purpose. We have a lame duck administration which reduces the leverage of Congress; a relatively unorganized Congress which finds itself only 18 months away from the next Congressional election, an expanding deficit and national debt, both of which cry for expenditure reduction. This political factor suggests that we would be hard put to come up with the capitalization needs for a new building.

8. I would conclude that the thrust of the recommendations contained in paragraph 6.2, page 20, of the Panel Report are reasonable and form the basis for developing a detailed plan. To those recommendations, I would add the following:

a. That management controls, possibly volume cap, be placed on the use of computer resources, especially DASD.

b. That we actively explore leasing a building in the Route 123 - Route 7 vicinity to accommodate the disbursed location. Leasing is suggested on the premise that the annual budget increment will be more acceptable to Congress than a major capitalization expenditure. The suggested geographic location should minimize loss of personnel.

c. That the Agency aggressively pursue technology as an assistance in limiting the growth of computer facilities.

d. That Agency management articulate the goals that it has for information resource management and the purpose and intents for the establishment of information resource networks and facilities.

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Attachment
Report of the Computer Study Panel

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